

## (19) United States

# (12) Patent Application Publication (10) Pub. No.: US 2019/0297738 A1 Zadesky et al.

### Sep. 26, 2019 (43) Pub. Date:

### (54) COLD WORKED METAL HOUSING FOR A PORTABLE ELECTRONIC DEVICE

(71) Applicant: Apple Inc., Cupertino, CA (US)

(72) Inventors: Stephen P. Zadesky, Portola Valley, CA (US); Phillip M. Hobson, Menlo Park, CA (US); Tang Yew Tan, Palo Alto, CA (US)

(21) Appl. No.: 16/440,896

(22) Filed: Jun. 13, 2019

#### Related U.S. Application Data

(60) Continuation of application No. 15/817,063, filed on Nov. 17, 2017, which is a continuation of application No. 14/313,505, filed on Jun. 24, 2014, now Pat. No. 9,955,599, which is a continuation of application No. 13/561,853, filed on Jul. 30, 2012, now Pat. No. 8,760,866, which is a continuation of application No. 12/706,444, filed on Feb. 16, 2010, now Pat. No. 8,243,429, which is a division of application No. 11/650,068, filed on Jan. 5, 2007, now Pat. No. 7,688,574.

#### **Publication Classification**

(51) Int. Cl. H05K 5/02 (2006.01)H04M 1/02 (2006.01)H05K 5/00 (2006.01)

(52)U.S. Cl. CPC ...... H05K 5/0217 (2013.01); H04M 1/0252 (2013.01); Y10T 29/49826 (2015.01); Y10T

29/18 (2015.01); Y10T 29/477 (2015.01); H05K 5/0013 (2013.01)

#### (57)ABSTRACT

A cold worked stainless steel bezel for a portable electronic device is provided. The bezel is secured flush to a housing to form part of the case of the portable electronic device. A brace that includes a slot for receiving a wall extending from the bezel is fixed to the housing. When the bezel engages the housing, the wall of the bezel is inserted in the slot of the brace and releasably held by a spring that engages both the brace and the wall. The bezel can be released by disengaging the spring, (e.g., using a special tool or a magnetic field). Because the bezel is manufactured from cold worked stainless steel, it is hard and resistant to impacts. Cold worked steel also facilitates manufacturing within design constraints and tolerances, and requires very little machining after manufacturing to comply with those constraints.

